

REMARKS

Claims 1, 8-9 and 15 have been amended. Claims 1-22 are presently pending.

The specification has been amended at paragraph [0091] to correct the typographical error regarding the term "servers", and at paragraph [0039] to identify the patent number of the patent application incorporated by reference and delete the recitation that the patent application was assigned to the assignee of this application. It is respectfully submitted that the amendments to the specification overcome the Examiner's objections, such that the objections should be withdrawn.

Claims 8-9 were amended to recite that the cache server of claim 1 includes a plurality of "cache servers" to overcome the Examiner's objection to the use of the term "sub-cache" server. Accordingly, the Examiner's objections to the claims should be withdrawn.

In view of such amendments and the following remarks, reconsideration and allowance of the claims, as presently presented, are respectfully requested.

EXAMINER'S ACTION**The 35 U.S.C. § 103 Rejections**

Claims 1-7 and 15 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,594,863 ("Stiles") in view of U.S. Patent No. 6,049,874 ("McClain *et al.*"). In addition, claims 8-9 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Stiles in view of McClain *et al.* and further in view of U.S. Patent No. 6,453,404 ("Bereznyi *et al.*"). Claims 1 and 15 as amended, and claims 2-9 which depend directly or indirectly upon claim 1, clearly are patentable over the cited combinations of references.

Claim 1, as amended, is directed to a method for managing shared access to

data files stored in a file server where a first storage cache is supplied with a copy of a data file retrieved from the file server by a cache server, and where the first storage cache is associated with a first workstation and stores the copy of the data file as a cached data file. Claim 1, in relevant part, requires that the first storage cache "incorporat[es] data file modifications entered by the first workstation into the cached data file as the modifications are entered, such that the cached data file is a current version". Claim 1 further requires that the cache server generates a replacement version of the data file stored at the file server based on file update data which the first storage cache provides and is a function of the modifications incorporated into the cached data file. Thus, the inventive method advantageously provides that storage caches and a cache server interface, respectively, with associated workstations and the file server to provide that the "workstations have shared access to real time data files stored at [the] file server." (See specification paragraph [0018], see also specification paragraphs [0019] and [0035]).

Although Stiles concerns recovery of files in a computer network after a network fault occurs, Stiles does not teach or suggest a method for managing shared access to data files stored in a file server where storage caches and a cache server interface, respectively, with associated client devices (such as a workstation) and the file server. The Examiner admitted that Stiles does not teach updating file data in view of modifications incorporated into the cached data file. Stiles further teaches to "'cache' file data by keeping a copy of the data in the region of the server's memory known as the 'server cache'". (See Stiles at Col. 2, ln.18-20). In contrast to Stiles, in the claimed invention, the cache server, which is not a part of the file server, generates replacement versions of the data file stored at the file server.

McClain *et al.* fails to cure the deficiencies of Stiles. Although McClain *et al.* teaches backing up files by automatically sending only changed portions, one of skill in the art, based on the teachings of McClain *et al.*, would not have been motivated to modify Stiles to obtain a method for managing shared access to data files where a first storage cache, which is not part of a client (workstation) device, "incorporat[es] data file modifications entered by the first workstation into the cached data file as the modifications are entered, such that the cached data file is a current version," as required by claim 1.

Claim 15, which is directed to a system for managing shared access to data files having limitations corresponding to those recited in claim 1, also is patentable over Stiles and McClain *et al.* for the same reasons as set forth above with respect to claim 1.

Accordingly, claims 1 and 15 are patentable over the combination of Stiles and McClain *et al.* Further, claims 2-9, which depend directly or indirectly from claim 1, are patentable over the cited combinations for the same reasons as set forth above with respect to claim 1 and because of the further restrictions they add.

In addition, claims 11-14 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,706,435 ("Barbara *et al.*") in view of McClain *et al.*

Claim 11 is directed to a method for managing shared access to data files stored in a file server requiring, in relevant part, the step of automatically transmitting file update data from a cache server to a storage cache in response to a workstation request for access to the data file received at the storage cache, and where the data files are stored at the file server. (See specification at paragraphs [0052] to [0056].) In contrast to the invention claimed in claim 11, Barbara *et al.* teaches to transmit file

update data automatically at periodic intervals, not based on requests for access to a data file by a client device. (See *Barbara et al.* at Col. 4, ln. 6-11). The teachings of *McClain et al.*, discussed above, fail to cure the deficiencies of *Barbara et al.* It is, therefore, respectfully submitted that *Barbara et al.* in combination with *McClain et al.* fail to teach or suggest the method for managing shared access to data files as required by claim 11.

Accordingly, claim 11 is patentable over the combination of *Barbara et al.* and *McClain et al.*, and furthermore claims 12-14, which depend directly from claim 11, are also patentable over the cited combination for the same reasons as set forth above with respect to claim 11 and because of the further restrictions they add.

Further, claims 17-20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Stiles* in view of U.S. Patent No. 5,689,706 ("*Rao et al.*"). In addition, claims 21-22 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Stiles* in view of *Rao et al.* and further in view of *McClain et al.*

It is respectfully submitted that *Stiles* alone, or in combination with *Rao et al.*, does not teach or suggest the claimed system including a cache server, which is not a part of a file server, and storage caches, which are associated with but not part of respective client devices, for managing shared access to data files as required by the claimed invention. Contrary to the Examiner's indication, the regulation of write and read rights by client devices (hosts) in *Rao et al.* is not analogous, and does not constitute a teaching or suggestion, to include a leasing module in the cache server, where the leasing module decides to grant reader access or read lease rights to a storage cache, as required by the claim 17.

Accordingly, claim 17 is patentable over the combination of *Stiles* and *Rao et al.*

In addition, claim 18, which includes limitations corresponding to those recited in claim 17, is patentable over Stiles and Rao *et al.* for the same reasons as set forth above with respect to claim 17. Further, claims 19-22, which depend directly or indirectly from claim 18, are patentable over the cited combination for the same reasons as set forth above with respect to claim 18 and because of the further restrictions they add.

Withdrawal of the Section 103 rejections is, therefore, respectfully requested.


CONCLUSION

For the foregoing reasons, it is believed that all of the claims, as presently presented, are patentable.

The Examiner is invited to telephone the undersigned if it is believed that further amendment and/or discussion would help to advance the prosecution of the present application.

Reconsideration and allowance of claims 1-22 are, therefore, respectfully requested.

Respectfully submitted,


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